

**CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

**Final Decision to Re-Certify
Hazardous Waste Environmental Technology**

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has reached a final decision to re-certify the following company's hazardous waste environmental technology:

Applicant: puraDYN Filter Technologies, Inc.
2017 High Ridge Road
Boynton Beach, FL 33426

Technology: puraDYN[®] Bypass Oil Filtration System

Section 25200.1.5 of the Health and Safety Code enacted by Assembly Bill 2060 (1993) authorizes DTSC to certify the performance of hazardous waste environmental technologies. The purpose of the certification program is to provide an in-depth, independent review of technologies to facilitate regulatory and end-user acceptance. Only technologies that are determined to not pose a significant potential hazard to the public health and safety or to the environment when used under specified operating conditions may be certified.

DTSC makes no express or implied warranties as to the performance of the manufacturer's product or equipment. The end-user is solely responsible for complying with the applicable federal, state, and local regulatory requirements. Certification does not limit DTSC's authority to take any action necessary for protection of public health and the environment.

By accepting certification, the manufacturer assumes, for the duration of certification, responsibility for maintaining the quality of the manufactured equipment and materials at a level equal to or better than was provided to obtain certification and agrees to be subject to quality monitoring by DTSC as required by the statute under which certification is granted.

DTSC's proposed decision to certify was published on April 25, 2003 in the California Regulatory Notice Register 2003, Volume No. 17-Z, pages 633-636. The only comment received during the 30-day public review and comment period was a correction of the applicant's current address, incorporated herein. No other comments were received during the comment period. DTSC's certification of the puraDYN[®] Bypass Oil Filtration System shall become effective thirty days after the publication of this notice.

Additional information supporting DTSC's decision can be found in the July 2003 Cal/EPA report entitled *puraDYN[®] Bypass Oil Filtration System Technical Evaluation Report*. To obtain a copy of the report contact:

California Environmental Protection Agency
Department of Toxic Substances Control
Office of Pollution Prevention and Technology Development
P.O. Box 806
Sacramento, California 95812-0806
Attn.: Mr. Dick Jones (916) 322-3292

A description of the technology, the certification statement, and the certification conditions and limitations for the technology of the company listed above follow.

HAZARDOUS WASTE ENVIRONMENTAL
TECHNOLOGIES

FINAL NOTICE OF TECHNOLOGY CERTIFICATION
puraDYN[®] Bypass Oil Filtration System

Technology: puraDYN[®] Bypass Oil Filtration System

Manufacturer: puraDYN[®] Filter Technologies, Inc.
2017 High Ridge Road
Boynton Beach, FL 33426

Technology Description

The puraDYN[®] Bypass Oil Filtration System was designed to extend oil drain intervals by continuously filtering engine oil. The bypass system filters a portion of the total oil flow to a greater degree than the full-flow filters typically found on vehicles. The puraDYN[®] system consists of a replaceable filter element housed in a metal canister. The canister is mounted on the vehicle frame, above the engine oil sump. The oil inlet to the canister is connected to the engine's oil pressure sending unit or oil galley. A stainless steel electric heating element is wired to the vehicle's electrical system, and the clean oil return line is connected to the oil sump.

Although engine oil is fed to the canister inlet by engine oil pressure, a metering jet is used to restrict the flow rate to six gallons per hour. The oil passes through a filter disk, and then through a long-strand cotton disposable filter element with a layer of time-released additives, effectively removing particles larger than one micron while replenishing lost or consumed oil additives. Filtered oil then flows over a heated diffuser plate located in the evaporation chamber. Fuel, water and coolant are evaporated at 195 degrees Fahrenheit and are vented to the air cleaner. Purified of particulate matter, fuel, water and coolant, the oil returns by gravity flow through the clean oil return line to the engine oil sump.

Certification Basis

The purpose of this puraDYN[®] re-certification was to re-evaluate and reconfirm the conclusion of the original 1994 certification and the 1998 re-certification. The 1994 and 1998 reports certified that by extending oil change intervals, the puraDYN[®] Bypass Oil Filtration System extends the useful life of the oil and reduces the generation of waste oil without adversely affecting engine wear or performance. For this re-certification, the puraDYN[®] system was re-evaluated using comments and data collected from current users, and through oil sampling conducted by DTSC on a variety of current applications.

DTSC staff contacted puraDYN[®] distributors who provided DTSC with thirty-five current puraDYN[®] users. These users were asked for their comments and oil analysis data. Eighteen users provided comments and eight sets of oil analysis data were received. DTSC was able to gauge customer satisfaction with the puraDYN[®] system from these comments. Oil analysis data provided by the users was reviewed to identify contaminants and characterize the overall oil quality. Data was received for various types of vehicles, including pick-up trucks, large semi trucks, dump trucks, buses, and boats.

Oil samples were also collected by DTSC to provide independent analyses of oil conditions on a variety of current puraDYN[®] applications. DTSC was able to collect oil samples for independent analysis from a cement truck, a bus, two police boat engines, and a rail yard switch engine.

Additionally, DTSC relied on the previous certification reports as an important foundation for this re-certification. The 1998 re-certification report (Appendix C) includes extensive certification data and numerous customer testimonials and oil analysis data, which are reviewed and summarized in this evaluation. The 1998 report also includes vendor supplied information, guidelines on the extended use of engine oil, and results of a state-sponsored demonstration project using 22 trucks and 13 buses.

Certification Statement

The puraDYN[®] Bypass Oil Filtration System is certified by DTSC as a Pollution Prevention technology when installed, operated, monitored, and maintained according to puraDYN[®]'s standards and specifications. This pollution prevention certification is specific to engine oil usage and used oil generation. The puraDYN[®] Bypass Oil Filtration System has been shown to be an effective means of extending engine oil change intervals by aiding in the removal of particulate matter, water, coolant, and fuel. Extended drain intervals reduce the:

- 1) use of new oil;
- 2) generation of used oil; and
- 3) potential of spills while draining and handling used oil.

The puraDYN[®] Bypass Oil Filtration System maintains the following engine oil properties within acceptable limits for continued use if properly operated, monitored, and maintained: viscosity and solids content, water, coolant, fuel, wear metals, and oil additives. The Bypass Oil Filtration System is not expected to maintain these within acceptable limits if major system failures occur, such as: leaks of coolant into the crankcase, leaks of fuel into the crankcase, oil cooler leaks, etc.

Engine oil drain cycles vary according to engine type, fuel quality, oil type, oil consumption rate, work environment, and engine loading. Extended oil drain cycles rely on elimination of harmful contaminants. Oil analysis is the most essential tool in determining maximum drain intervals and predicting forthcoming engine maintenance needs.

DTSC finds that the manufacturer's product or equipment can achieve performance levels as described in the certification. This finding is based on a review of additional data collected over four years from end-users, current and previous data submitted by the manufacturer, and interviews with current and previous end-users. Testing was conducted in 2002, providing oil samples and analysis from four puraDYN[®] equipped units; in 1994, under the direction of DTSC to confirm data submitted by puraDYN[®]; and in 1997, by C.F. Services, for a California Integrated Waste Management Board grant-funded demonstration project.

Limitations of Certification

The Department makes no express or implied warranties as to the performance of puraDYN[®]'s Bypass Oil Filtration System. Nor does the Department warrant that puraDYN[®]'s product or equipment is free from any defects in workmanship or material caused by negligence, misuse, accident, or other causes.

The Department does believe, however, that the manufacturer's product or equipment can achieve performance levels set out in this certification when the product or equipment is used in accordance with the manufacturer's specifications. Said belief is based on a review of the data submitted by the manufacturer, interviews with end-users of the equipment, and independent testing conducted under the direction of the Department.

By accepting this certification, the manufacturer assumes, for the duration of this certification, responsibility for maintaining the quality of the manufactured equipment and materials at a level equal or better than was provided to obtain this certification and agrees to be subject to quality monitoring by the Department pursuant to the law under which this certification is granted.

Regulatory Implications

This certification is for the specific claims, conditions, and limitations outlined in this notice, and is based on DTSC's evaluation of the technology's performance. The

certification does not change the regulatory status of the puraDYN[®] Bypass Oil Filtration System; it should, however, facilitate and encourage the acceptance of this technology for its environmental benefits as a pollution prevention technology.

Use of this technology may be subject to regulation by federal, state, and local agencies. For each specific application, the end-user must ensure compliance with all applicable regulations and standards established by federal, state, and local agencies.

This certification is issued under the California Environmental Technology Certification Program, and is therefore subject to the conditions set out in the regulations, such as the duration of the Certification, monitoring and oversight requirements, and procedures for certification amendments, including de-certification.

Duration of Certification

This certification will remain in effect for three years from the date of issuance, unless it is amended or revoked for cause.